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DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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March 29, 2002

TO: Internal File

THRU: Daron R. Haddock, Permit Supervisor
Pamela Grubaugh-Littig, Permit Supervisor

FROM: Priscilla W. Burton, Sr. Reclamation Specialist/Soils

RE: Technical Field Visit, Surface Soil Testing, Energy West Mining, Inc., Des Bee Dove Mine, C/015/017-01A

Other Attendees:

Dennis Oakley, Energy West Mining, Inc.
Kimball Rasmussen, Nielsen Construction

Date & Time:

March 22, 2002 10:00am – 1:30 pm

PURPOSE:

To sample surface soils in the vicinity of drainage #1 for pH and Electrical Conductivity (EC).

OBSERVATIONS:

Drainage #1 had been graded and pocked to create a rough surface. Hay had been incorporated with the pocking. Rocks were placed in the drainage. Five samples were taken of the surface soils around the drainage and highwall and one sample was taken from the topsoil pile. There were six samples in all. All samples were compilations of several subsamples taken from 0 – 6 inches deep.

TECHNICAL FIELD VISIT

Sample Number	Location	pH	EC mmhos/cm
#1	Subsoil below highwall adjacent to drainage (on request of Mr. Rasmussen)	6.93	4.2
#2	Upper right of drainage (no mulch)	7.25	3.22
#3	Lower right of drainage (no mulch)	7.38	4.58
#4	Upper left of drainage (with mulch)	7.45	2.60
#5	Lower left of drainage (with mulch)	7.08	2.70
#6	Topsoil stored in topsoil pile	7.28	1.86

A solution of 1,413 uS was used to standardize the meter for Electrical Conductivity readings and solutions of pH 7.0 and 10.0 were used to standardize the meter for pH readings. A 1:1 soil:water extraction was used for measurement.

In all cases, sample values exceeded the standard. Samples of topsoil were lower in Electrical Conductivity than the subsoils. Mr. Rasmussen requested analysis of the subsoils adjacent to the highwall to determine whether the material would be satisfactory as a surface soil.

Mr. Oakley took the soil samples to the Energy West Offices for analysis with his pH/EC meter for comparative purposes. Mr. Oakley used a solution standard of 2070 uS. And a pH standard of 7.0 with the following results:

#1 Drainage **3/22/02**

Sample Site	Division Analysis (Stand. 1413uS)		Energy West (Stand.2070 uS)	
	EC	pH	EC	pH
#1	4.2 mS	6.93	2.14 mS	8.1
#2	3.22 mS	7.25	2.2 mS	7.96
#3	4.58 mS	7.38	3.23 mS	7.7
#4	2.6 mS	7.45	1.77 mS	8.04
#5	2.7 mS	7.08	3.14 mS	7.79
Sub. Topsoil	1.86 mS	7.28	2.11 mS	8.03

RECOMMENDATIONS/CONCLUSIONS:

The surface soils tested are suitable for use as substitute topsoil. The topsoil salvaged from Phase I can be reserved to cover coal mine waste elsewhere on the site. Seeding should proceed over the soils in drainage #1 after the mulching is completed on the right side of the drainage.

cc: Dennis Oakley, Energy West Mining, Inc.
Kimball Rasmussen, Nielsen Construction
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